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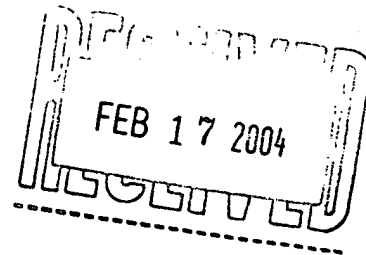
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JDS Uniphase Corporation Intellectual Property Dept. 570 West Hunt Club Road Nepean, ON K2G 5W8 CANADA			EXAMINER AMARI, ALESSANDRO V	
			ART UNIT 2872	PAPER NUMBER

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



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## Office Action Summary

**Application No.**

10/059,413

**Applicant(s)**

DUGGAN, PHILIP PATRICK

**Examiner**

Alessandro V. Amari

**Art Unit**

2872

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 16-22 is/are rejected.
- 7) ☒ Claim(s) 10-13 and 23-25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 14 and 15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 4. The traversal is on the ground(s) that all of the elements of the invention in Figures 6a, 6b (species 1) and Figure 13 (species 3) are not mutually exclusive. However, the applicant withdrew claims 14 and 15 as being drawn to a distinct species (Figure 7 - species 2). The arguments regarding species 1 and 3 are found persuasive therefore; claims 1-13 and 16-25 will be examined in this action.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6, 7, 9 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scobey et al US Patent 6,115,401 in view of Welch et al US Patent 6,590,655.

In regard to claim 1, Scobey et al '401 teaches (see Figures 9, 15) an optical filter comprising a first lens system (24) which produces an output beam; and a linear variable filter (38') for shifting a center wavelength response of said linear variable filter in a wavelength varying direction as described in column 15, lines 45-49, said linear

variable filter coupled to receive the output beam as shown in Figure 9 and as described in column 15, lines 21-67 and column 16, lines 1-11.

Regarding claim 6, Scobey et al '401 teaches comprising means for tuning the optical filter as described in column 15, lines 21-67 and column 16, lines 1-40.

Regarding claim 7, Scobey et al '401 teaches that the means for tuning comprise means for relatively translating the output beam and the linear variable filter in a direction substantially normal to a propagation direction of the output beam as described in column 15, lines 21-67 and column 16, lines 1-40.

Regarding claim 9, Scobey et al '401 teaches wherein the linear variable filter is tilted about an axis in the substantially wavelength varying direction as described in column 15, lines 21-67 and column 16, lines 1-40.

However, in regard to claim 1, Scobey et al '401 does not teach that the first lens system converts an input beam into an output beam having a substantially eccentric cross-section. Regarding claim 2, Scobey et al '401 does not teach that the first lens system comprises at least two lenses for shaping the output beam, said output beam being substantially focused in the wavelength varying direction and substantially collimated in a substantially wavelength constant direction substantially perpendicular to said wavelength varying direction. Further, regarding claim 3, Scobey et al '401 does not teach that the first lens system is selected from the group consisting of a cylindrical lens, a spherical lens, a biconic lens, a GRIN lens, an aspheric lens, and a GRIN cylindrical lens.

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In regard to claim 1, Welch et al does teach (see Figs 3a-3c, 4a) that the first lens system converts an input beam into an output beam having a substantially eccentric cross-section and as described in column 2, lines 63-67 and column 3, lines 1-10.

Regarding claim 2, Welch et al does teach (see Figure 4a) that the first lens system comprises at least two lenses (BE, BC1) for shaping the output beam, said output beam being substantially focused in the wavelength varying direction and substantially collimated in a substantially wavelength constant direction substantially perpendicular to said wavelength varying direction as described in column 2, lines 63-67 and column 3, lines 1-10.

Regarding claim 3, Welch et al does teach that the first lens system is selected from the group consisting of a cylindrical lens, a spherical lens, a biconic lens, a GRIN lens, an aspheric lens, and a GRIN cylindrical lens as described in column 7, lines 10-47.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the lens system of Welch et al for the filter of Scobey et al '401 in order to effect desired beam spot shape for the purpose of enhancing filter performance.

In regard to claim 16, Scobey et al '401 teaches (see Figures 9, 15) a method for reducing at least one of a beam size broadening and an angular broadening of a linear variable optical filter (38') comprising the steps of providing a beam to the linear variable optical filter; orienting a minor axis of the beam in a wavelength varying direction of the

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linear variable optical filter and focusing the beam in a wavelength varying direction of the linear variable optical filter as described in column 15, lines 21-67 and column 16, lines 1-11.

Regarding claim 18, Scobey et al '401 teaches the step of tilting the linear variable filter about an axis in the substantially wavelength varying direction for minimizing a back-reflectance as described in column 15, lines 21-67 and column 16, lines 1-40.

However, in regard to claim 16, Scobey et al '401 does not teach the step of providing, orienting and focusing an elliptical beam to the linear variable filter said beam being substantially collimated in the wavelength varying direction corresponding to a major axis of the elliptical beam. Regarding claim 17, Scobey et al '401 does not teach the step of providing the elliptical beam at an optimized angle relative to the major axis of the elliptical beam.

In regard to claim 16, Welch et al does teach the step of providing, orienting and focusing an elliptical beam to the linear variable filter said beam being substantially collimated in the wavelength varying direction corresponding to a major axis of the elliptical beam as described in column 2, lines 63-67 and column 3, lines 1-10.

Regarding claim 17, Welch et al teaches the step of providing the elliptical beam at an optimized angle relative to the major axis of the elliptical beam as described in column 2, lines 63-67 and column 3, lines 1-10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the elliptical beams of Welch et al for the filter of Scobey

et al '401 in order to effect desired beam spot shape for the purpose of enhancing filter performance.

4. Claims 1-8 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scobey et al US Patent 6,320,996 in view of Welch et al US Patent 6,590,655.

In regard to claims 1 and 19, Scobey et al '996 teaches (see Figures 13, 17-19), an optical filter comprising an input port (12a, 12b) for launching an input beam comprising a plurality of wavelengths into the optical filter; a first lens system (20a) for receiving the input beam from the input port; a linear variable filter (22) for receiving the beam from the first lens system and for substantially transmitting a selected wavelength of the plurality of wavelengths and substantially reflecting remaining wavelengths of the plurality of wavelengths as described in column 14, lines 26-42; a second lens system (20c) for receiving the selected wavelength and for recoupling said selected wavelength; and an output port for receiving the selected wavelength (12c).

Regarding claim 4, Scobey et al '996 teaches (see Figures 13, 17-19), further comprising a second lens system (20c) coupled to receive a filtered beam from the linear variable filter, said second lens system for recoupling the filtered beam.

Regarding claim 5, Scobey et al '996 teaches that the second lens system is selected from the group of a cylindrical lens, a spherical lens, a biconic lens, a GRIN lens, an aspheric lens, and a grin cylindrical lens as described in column 8, lines 3-14 and column 16, lines 5-55.

Regarding claims 6 and 20, Scobey et al '996 teaches comprising means for tuning the optical filter as described in column 14, lines 26-67.

Regarding claim 7 and 21, Scobey et al '996 teaches that the means for tuning comprise means for relatively translating the output beam and the linear variable filter in a direction substantially normal to a propagation direction of the output beam as described in column 14, lines 26-52.

Regarding claim 8, Scobey et al '996 teaches that the means for translating is a stepper motor as described in column 14, lines 43-52.

However, in regard to claims 1 and 19, Scobey et al '996 does not teach a first lens system for providing a substantially elliptical beam, said elliptical beam being substantially focused in a first direction and substantially collimated in a second direction substantially perpendicular to the first direction; receiving said elliptical beam from the first lens system. Regarding claim 2, Scobey et al does not teach that the first lens system comprises at least two lenses for shaping the output beam, said output beam being substantially focused in the wavelength varying direction and substantially collimated in a substantially wavelength constant direction substantially perpendicular to said wavelength varying direction. Further, regarding claim 3, Scobey et al '996 does not teach that the first lens system is selected from the group consisting of a cylindrical lens, a spherical lens, a biconic lens, a GRIN lens, an aspheric lens, and a GRIN cylindrical lens nor regarding claim 22, that the first direction is a substantially wavelength varying direction and the second direction is a substantially wavelength constant direction and wherein said linear variable filter is tilted about an axis in the substantially wavelength varying direction.

In regard to claims 1 and 19, Welch et al does teach a first lens system for providing a substantially elliptical beam, said elliptical beam being substantially focused in a first direction and substantially collimated in a second direction substantially perpendicular to the first direction; receiving said elliptical beam from the first lens system.

Regarding claim 2, Welch et al does teach (see Figure 4a) that the first lens system comprises at least two lenses (BE, BC1) for shaping the output beam, said output beam being substantially focused in the wavelength varying direction and substantially collimated in a substantially wavelength constant direction substantially perpendicular to said wavelength varying direction as described in column 2, lines 63-67 and column 3, lines 1-10.

Regarding claim 3, Welch et al does teach that the first lens system is selected from the group consisting of a cylindrical lens, a spherical lens, a biconic lens, a GRIN lens, an aspheric lens, and a GRIN cylindrical lens as described in column 7, lines 10-47.

Regarding claim 22, Welch et al teaches that the first direction is a substantially wavelength varying direction and the second direction is a substantially wavelength constant direction and wherein said linear variable filter is tilted about an axis in the substantially wavelength varying direction as described in column 2, lines 63-67 and column 3, lines 1-10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the lens system of Welch et al for the filter of Scobey et al

'996 in order to effect desired beam spot shape for the purpose of enhancing filter performance.

***Allowable Subject Matter***

5. Claims 10-13 and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claim 10 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, "first reflective means disposed to receive a back-reflected beam from the linear variable filter and to direct the back-reflected beam back to said linear variable filter for providing a second filtering" as set forth in the claimed combination. Claims 11-13 are also allowable based on their dependence on claim 10.

Claim 23 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, "reflective means for receiving the reflected remaining wavelengths and for sending said reflected remaining wavelengths back to the linear variable filter for providing a second filtering for the selected wavelength" as set forth in the claimed combination. Claims 24 and 25 are also allowable based on their dependence on claim 23.

The prior art of record, Scobey et al '401 and '996 and Welch et al teach a tunable optical filter comprising a first lens system for converting an input beam into an output beam having a substantially eccentric cross-section and a linear variable filter for shifting a center wavelength response of said linear variable filter in a wavelength

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varying direction, said linear variable filter coupled to receive the output beam with a second lens system coupled to receive a filtered beam from the linear variable filter, said second lens system for recoupling the filtered beam. However, the prior art does not teach that the first reflective means disposed to receive a back-reflected beam from the linear variable filter and to direct the back-reflected beam back to said linear variable filter for providing a second filtering and there is no motivation or teaching to modify this difference as derived.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (703) 306-0533. On January 21, 2004, the telephone number will be changed to (571) 272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ava *ava*  
08 January 2004

  
MARK A. ROBINSON  
PRIMARY EXAMINER